AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listing, of claims in the application

Listing of Claims:

1. (Currently amended) An image sensor having a plurality of pixels, each pixel comprising:

a photocell which receives light in response to a ~~first~~ shutter control signal and generates an analog signal corresponding to a quantity of the received light;

a latch type comparator which compares the analog signal of the photocell and an analog signal of a photocell of an adjacent pixel, generates a 1-bit digital signal having a value of the comparison and maintains the 1-bit digital signal generated by the comparison until a ~~second~~ subsequent shutter control signal ~~subsequent to the first shutter control signal~~ is received; and

a switch which outputs the 1-bit digital signal of the latch type comparator based on a pixel select signal.

2-3. (Canceled)

4. (Previously presented) The image sensor as claimed in claim 1, wherein the analog signal of the photocell of the adjacent pixel is a reference voltage.

5. (Original) The image sensor as claimed in claim 1, wherein the photocell is a photo diode that generates a photocurrent corresponding to the received quantity of light.

6. (Previously presented) The image sensor as claimed in claim 1, wherein the latch type comparator outputs a first signal when the analog signal of the photocell is greater than the analog signal of the photocell of the adjacent pixel and outputs a second signal when the analog signal of the photocell is less than the analog signal of the photocell of the adjacent pixel.

7-14. (Canceled)

15. (Currently amended) An optical pointing system comprising:

a) a plurality of pixels, each comprising

a photocell which receives light in response to a ~~first~~ shutter control signal and generates an analog signal corresponding to a quantity of the received light,

a latch type comparator which compares the analog signal of the photocell and an analog signal of a photocell of an adjacent pixel, generates a 1-bit digital signal having a value of the comparison and maintains the 1-bit digital signal generated by the comparison until a ~~second~~ subsequent shutter control signal ~~subsequent to the first shutter control signal~~ is received, and

a switch which outputs the 1-bit digital signal of the latch type comparator based on a pixel select signal;

b) an image processor which calculates a movement value based on a plurality of the 1-bit digital signals outputted from the plurality of pixels and generates the pixel select signal and a shutter control information signal based on the movement value; and

c) a shutter control circuit which generates at least one of the ~~first~~ shutter control signal and the ~~second~~ subsequent shutter control signal based on the shutter control information signal of the image processor.

16-19. (Canceled)

20. (Currently amended) An optical pointing system comprising:

a) a plurality of pixels, each comprising

a photocell which receives light in response to a ~~first~~ shutter control signal and generates an analog signal corresponding to a quantity of the received light,

a latch type comparator which compares the analog signal of the photocell and an analog signal of a photocell of an adjacent pixel, generates a 1-bit digital signal having a value of the comparison and maintains the 1-bit digital signal generated by the comparison until a ~~second~~ subsequent shutter control signal ~~subsequent to the first shutter control signal~~ is received, and

a switch which outputs the 1-bit digital signal of the latch type comparator based on a pixel select signal;

b) an image processor which calculates a movement value based on a plurality of the 1-bit digital signals outputted from the plurality of pixels and generates the pixel select signal and a shutter control information signal based on the movement value; and

c) a shutter control circuit which generates at least one of the ~~first~~ shutter control signal and the ~~second~~ subsequent shutter control signal based on the shutter control information signal of the image processor, wherein the at least one of the ~~first~~ shutter control signal and the ~~second~~ subsequent shutter control signal comprises a first signal based on a period in which the shutter is turned on and a second signal based on an initial operation of the image processor.